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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,751	03/09/2004	Robert B. Huston	50838/518:3	4221

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EXAMINER

JOHNSON, STEPHEN

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,751

Applicant(s)

HUSTON, ROBERT B.

Examiner

Stephen M. Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 34-35 and 46-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The application as originally filed lacks support for the claim language directed to “a material that shrinks when molded to thereby generate a tension that pulls the breech portion and the muzzle portion toward each other” (claims 34 and 46) and “in which the tension is opposed by a compression force exerted on the sleeve” (claims 35 and 47).

3. Applicant’s arguments are addressed as follows. It is argued that the material (UT1018 Makroblend) has characteristics that must inherently shrink to result in the characteristic now claimed generation of a tension that pulls the breech portion and the muzzle portion toward each other. In response, although the recited material does shrink to some degree, it cannot be concluded that the result claimed is either inherent or obvious. For instance, the shrinking may be in only the radial direction. If so, it would not result in pulling the breech and muzzle portions together as now claimed. Further, the shrinking might result in a stretching or breaking of the recited material (UT1018 Makroblend) rather than the now claimed creation of a tension between the muzzle and breech portions. Note that other properties directed to this material are “Tensile Stress at Yield” and “Tensile Stress at Break”. Further, applicant has recited in his

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specification that it is desired to use of material of “low shrink rate”. Would not less shrinkage inherently teach away from such a creation of tension? Further, applicant has embodiments where the muzzle portion 30 is omitted (para. [0020]). How could such an embodiment result in creation of tension as now claimed?

Applicant has also argued that the specification recites “the optional serrations 28 and 34 assist in maintaining a tight connection between the casing 40, the breech portion 18, and the muzzle portion”. While this is explicitly mentioned. It is not mentioned as to how this is to be achieved and one cannot conclude absent some teaching or support in the written disclosure that this objective is inherently achieved as is being now claimed for the reasons already given in the above paragraphs.

The above explanations meet the criteria of MPEP 2164.04 in that an explanation of the evidence and written disclosure have been analyzed to provide the various factors and reasons for the examiners conclusion. Consequently, the burden of a prima facie case for lack of a written enabling description or disclosure has been clearly established.

4. Claims 34-35 and 46-47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The application as originally filed lacks support for the claim language directed to “a material that shrinks when molded to thereby generate a tension that pulls the breech portion and the muzzle portion toward each other” (claims 34 and 46) and “in which the tension is opposed by a compression force exerted on the sleeve” (claims 35 and 47).

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5. Claims 21-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 21, line 4; and in claim 36, line 3; use of the phrase “thin-walled” makes the claim indefinite as to what thickness of the wall is required to meet this claim limitation.

Applicant’s arguments are addressed as follows. It is argued that the term “thin-walled” is sufficiently definite to be understood by one of ordinary skill in this art. This argument is not convincing for one of the very reasons listed by applicant in his arguments. It is argued that one of ordinary skill in this art would be “apprised of the scope of the invention”. This is not the case. If for example, the insert member was .5 inches in wall thickness, this would be considered to be thin relative to another barrel member (e.g. casing) that is 1.0 inches in thickness. If for example, the insert member was .5 inches in wall thickness, this would be considered to be thick relative to another barrel member (e.g. liner) that is 0.1 inches in diameter. The term “thin” is a relative term that has no meaning unless used in a comparative sense that is clearly set forth in the bounds of the claim language. Consequently, one of ordinary skill in **not appraised** of the scope of the invention having no idea as to what thicknesses are intended to be inclusive in the term “thin-walled” as claimed.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 21-22, 24-27, 29, 31-32, 34-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Krumm et al. (844).

Krumm et al. (844) disclose a firearm barrel comprising:

- | | |
|---|---------------------|
| a) a rigid tubular sleeve; | 13 |
| b) a breech portion; | 9 |
| c) a muzzle portion; | 10 |
| d) an elongated insert member; | 11 |
| e) a casing of fiber composite material; | 16, 17, 18 |
| f) the casing tightly connects the portions; | col. 4, lines 13-28 |
| g) bonding by adhesives or press-fitting; and | col. 4, lines 35-38 |
| h) a stem with serrations. | 9, 10 (see fig. 2) |

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krumm et al. (844) in view Petrovich (958).

Krumm et al. (844) apply as previously recited. However, undisclosed is a barrel casing that is composed of a polymer material. Petrovich (958) teaches a barrel casing that is composed of a polymer material (col. 1, lines 58-66). Applicant is substituting one barrel casing material for another in an analogous art setting as explicitly encouraged by the secondary reference (see Petrovich; col. 1, lines 58-66). It would have been obvious to a person of ordinary skill in this art

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at the time of the invention to apply the teachings of Petrovich (958) to the Krumm et al. (844) barrel and have a barrel with a different casing material.

10. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krumm et al. (844) in view of Manshel (243).

Krumm et al. (844) apply as previously recited. However, undisclosed is a barrel sleeve component that is made of aluminum. Manshel (243) teaches a barrel sleeve component that is made of aluminum (col. 1, lines 64-65). Applicant is substituting one material type of barrel sleeve component for another in an analogous art setting. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Manshel to the Krumm et al. firearm and have a firearm with a different material type of sleeve component.

11. Claims 21, 24, 27, 29, and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Hartley (912).

Hartley (912) discloses a firearm barrel comprising:

- | | |
|--|-----------------------------|
| a) a rigid tubular sleeve; | 11 |
| b) a breech portion; | 19 |
| c) a muzzle portion; | 20 |
| d) an elongated insert member; | 29, 30 |
| e) a casing; | 18 |
| f) the casing tightly connects the portions; and | 21, 22 |
| g) serrations. | threaded portions of 19, 20 |

12. Claims 21, 24, 26-27, 32, 36-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Creedon (872).

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Creedon (872) discloses a firearm barrel comprising:

- | | |
|--|---------------------|
| a) a rigid tubular sleeve; | 30 |
| b) a breech portion; | 32 |
| c) a muzzle portion; | other 32 |
| d) an elongated insert member; | 51, 52 |
| e) a casing; | 34 |
| f) the casing tightly connects the portions; | col. 3, lines 58-61 |
| g) a stem with serrations; and | 38 |
| h) major and minor bores. | 32's (see fig. 5) |

13. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Creedon (872) in view of Bofors (976).

Creedon (872) applies as previously recited. However, undisclosed is a breech portion having serrations to connect the breech portion to the casing. Bofors (976) teaches serrations to connect the breech portion to the casing (see items 4, 5 in fig. 1). Applicant is substituting one connecting means for another in an analogous art setting. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Bofors (976) to the Creedon (872) firearm and have a firearm with a different type of connector.

14. Claims 28 and 30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

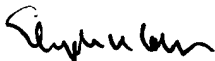
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15. Applicant's arguments filed on 10/11/2005 have been fully considered but they are not persuasive. These arguments have been addressed in the preceding paragraphs of this Office action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 571-272-6877 and whose e-mail address is (Stephen.Johnson@uspto.gov). The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The Central FAX phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.



STEPHEN M. JOHNSON
PRIMARY EXAMINER

Stephen M. Johnson
Primary Examiner
Art Unit 3641

SMJ
December 23, 2005